

REMARKS

The Office Action of January 5, 2007, has been considered by the Applicants. Claims 15, 30, and 45 have been amended. Claims 1-45 remain pending. Reconsideration of the Application is requested.

Claims 15, 30, and 45 were rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite. Applicants traverse the rejection.

The claims have been amended to recite an "apparatus" instead of an "application", as suggested by the Examiner. Applicants request withdrawal of the rejection.

Claims 1-45 were rejected under 35 U.S.C. 102(b) as allegedly anticipated by, or in the alternative under 35 U.S.C. 103(a), as allegedly obvious over Bluett (U.S. Patent No. 5,395,725). Applicants traverse the rejection.

The Examiner stated that the Examples of Bluett "specifically compare the criticality of having each mercapto and amino functionality as opposed to having one or the other singularly. It is inherent that the desired ratio is achieved because of the similarities in the mercapto and amino functional moieties employed."

Bluett does not teach all claim limitations. In particular, Bluett does not teach that the mole ratio of mercapto to amino is at least 2, at least 5, or at least 10, as recited in independent claims 1, 16, and 31. At col. 4, line 63 through col. 5, line 10, Bluett teaches that the composition contains from about 0.1 to about 30 weight percent of a mercapto oil and about 99.9 to about 70 weight percent of a non-mercapto oil. At col. 5, lines 35-45, Bluett discloses a composition of from about 0.1 to 5 weight percent mercapto and 95 weight percent amino. In Example I, the mercapto:amino weight ratio is 20:80. In Examples II and III, the ratio is 2.9:97.1. Bluett consistently teaches having a weight ratio of mercapto to amino which is below 1, not at least 2. Applicants realize that Bluett uses weight ratios. However, Applicants note that the molecular weight of SH is 33.07 g/mol, whereas the molecular weight of NH₂ is 16.02 g/mol. In other words, fewer moles of the mercapto are needed to reach the same weight as an amino. Thus,

the mole ratio is inherently lower than the weight ratio. Therefore, this limitation is not met.

As to inherency, Applicants request clarification as to why the Examiner believes the mercapto and amino functional moieties are similar.

For these reasons, Bluett does not anticipate.

As to obviousness, the Examiner stated that it would be obvious to vary the amounts of mercapto and amino because of the direct suggestion of Bluett with the expectation of similar results. In response, Applicants submit that Bluett does not make this suggestion. Applicants note Example I and Comparative Examples I and III. In Example I, a 20:80 mercapto:amino blend gives emissions of less than 4 ppm. In Comparative Example I, a 0:100 blend gives emissions of 574 ppm, clearly unacceptable. In Comparative Example III, a 100:0 blend gives emissions of about 4 ppm. Given that mercapto is more expensive than amino and that a blend achieves the same emissions, Bluett does not suggest adding more mercapto, but suggests adding more amino. This is the direct opposite of the instant application.

There is no motivation to modify the reference. As noted above, Bluett discloses a fuser fluid composition which has more amino than mercapto. This application discloses the exact opposite: a fuser fluid composition with more mercapto than amino. The claimed ratio does not overlap that of Bluett, so that cannot be the basis for a finding of *prima facie* obviousness. MPEP § 2144.05(I). Nor can this be considered an optimization of ranges. As noted in MPEP § 2144.05(II)(A), it is the normal desire of scientists to improve upon what is known which provides the motivation "to determine where in a disclosed set of percentage ranges is the optimum combination of percentages" (emphasis added). The claimed ratio does not fall within the set of ranges disclosed by Bluett; therefore, there is no motivation to optimize.

The purposes are different. In Bluett, the purpose of adding amino to mercapto is to reduce formaldehyde emissions economically without adversely affecting performance characteristics. See col. 3, lines 20-34; col. 3, lines 46-68. In the instant application, the purpose of adding mercapto to amino is to provide a fuser fluid for both black-and-white printing and color printing. See paragraphs [0036] - [0041]. The two

purposes are not clearly linked to each other, such that modifying the liquid for one purpose would automatically serve the other purpose as well. The different purposes do not serve as motivation to modify either.

For these reasons, Bluett does not render the instant claims obvious.

CONCLUSION

For these reasons, the pending claims (1-45) are in condition for allowance. Withdrawal of the rejections and issuance of a Notice of Allowance is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he is hereby authorized to call Richard M. Klein, at telephone number 216-861-5582, Cleveland, OH.

It is believed that no fee is due in conjunction with this response. If, however, it is determined that fees are due, authorization is hereby given for deduction of those fees, other than the issue fees, from Deposit Account No. 24-0037.

Respectfully submitted,
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